

## 目次

## 船舶与海洋工程

- 内河电子航道图制作精度控制方法 ..... 李邵喜,赵德鹏,董华,柏堃 (1)
- 基于 Petri 网的船舶碰撞事故成因 ..... 李珊珊,郑中义 (5)
- 荆州长江大桥船舶到达规律分析及检验 ..... 刘亮,刘敬贤,谭志荣 (8)
- 船舶风险评价模型 ..... 鲍君忠,刘正江,黄通涵 (11)
- 基于 AHP 的海事巡逻船配置 ..... 黄鹏飞,周建文,李子富 (14)
- 水上交通安全风险及防控 ..... 李国凯 (17)
- 模糊变权法在船舶综合安全评估中的应用 ..... 刘强,王凤武,岳兴旺 (21)
- 旋转捷联惯导系统的可观性分析 ..... 王超,朱海,高大远,吴自飞 (23)

## 交通运输管理

- 基于双目标规划和遗传算法的航线配船优化 ..... 李佳,徐奇,殷翔宇,栾维新 (27)
- 基于模糊神经网络的航运运价指数预测 ..... 董良才,黄有方,胡颢 (31)
- 集装箱航线结构模式的选择 ..... 陈超,苏雅 (35)
- 基于缓存思想的集装箱码头泊位作业优化 ..... 刘枚莲,黄键,朱美华 (39)
- 基于因子分析和数据包络分析的港口竞争力评价 ..... 吕梁,高红,贾红雨,刘巍 (43)
- 港口群发展与生态环境之间的关系 ..... 刘翠莲,刘丰 (48)
- 基于地理信息系统的大规模设施选址和路径规划 ..... 孙静 (51)
- 基于交通禁则与道路等级因子的路径规划启发式函数 ..... 孙玉钰,蒋波,李纯莲,王薇,戴银飞,董迎红 (55)
- 物流运行“场”机理 ..... 赵冰,王诺,杨春霞 (59)
- 综合运输体系与区域经济互动影响的系统动力学模型 ..... 董敏,郭子坚,唐国磊,张茜 (64)
- 基于 VAR 模型的中国居民消费与经济成长的关系 ..... 阙澄宇,马斌 (68)

## 自动化

- 海上溢油环岛运动的实时仿真和三维可视化 ..... 余枫,尹勇 (74)
- 舰(船)载直升机稳定平台系统的预报控制试验研究 ..... 陈远明,叶家玮,张今龙,梁富琳 (77)
- 基于非线性空间的小样本回归方法 ..... 于哲夫,路慧彪,贾传荧 (81)
- 基于 BP 网络的同面多电极技术图像重构算法 ..... 吴云靖,董恩生,庞宇,赵德林 (84)
- 非饱和光诱导延迟荧光在光合能力检测中的应用 ..... 李瑛,许文海 (88)
- 一种基于脆弱点依赖图的脆弱性评估方法 ..... 马俊春,孙继银,王勇军,李琳琳 (92)
- 两类故障的鲁棒容错控制 ..... 李高云,陈春燕,刘胜 (96)

## 信息工程

- 基于线性与非线性模型的海杂波预测 ..... 苏晓宏,索继东,柳晓鸣,王英春 (100)
- 一种新的红外纹理生成方法 ..... 陈珊,孙继银,郭文普,李琳琳 (103)
- 一种基于偏微分方程的图像去噪方法 ..... 徐书方,刘婧,沈立新 (107)

## 化工与环境科学

- 基于统计分析软件的海上光污染调查问卷设计 ..... 朱金善,章文俊,尹建川,孙立成 (111)
- 水下油气溢漏事故污染物输移预测模型 ..... 廖国祥,高振会,熊德琪 (115)
- 海底沉船溢油轨迹及溢油速度数值模拟 ..... 肖明,李巍,林建国,梁霄 (121)
- 液化天然气船水上泄漏事故源强计算方法 ..... 庄学强,郑超瑜 (125)
- 水下输油管道溢油运动模拟及应急处理 ..... 管永义,李巍,林建国 (129)
- 转基因抗除草剂作物全因素层次模型的建立与风险分析 ..... 杨君,刘金涛,杨德礼 (132)

## 能源与动力工程

- 端壁翼刀在跨音速压气机环形叶栅中的应用 ..... 杨凌,钟兢军,严红明 (136)
- 柴油机曲轴瞬时扭矩的仿真计算与试验验证 ..... 樊良,王剑平,曹诚,周庆年 (141)

## 数学

- 图的完全 b-染色数的研究 ..... 吕闯,王科伦,廖薇,徐晶 (146)

期刊基本参数:CN21-1360/U \* 1957 \* q \* A4 \* 150 \* zh \* P \* ¥15.00 \* 1400 \* 38 \* 2010-11

责任编辑:陈航 武峥 罗桂春 英文审校:倪暹

# Journal of Dalian Maritime University

Vol. 36 No. 4 Nov. 2010

## Contents

### Ship and Ocean Engineering

- Cartographic accuracy control for inland electronic navigation chart ..... LI Shaoxi, ZHAO Depeng, DONG Hua, BAI Kun (1)
- Petri net based vessel collision accident causation analysis ..... LI Shanshan, ZHENG Zhongyi (5)
- Examination and analysis of vessel traffic flow distribution in Jingzhou bridge area ..... LIU Liang, LIU Jingxian, TAN Zhirong (8)
- Ship risk assessment model ..... BAO Junzhong, LIU Zhengjiang, HUANG Tonghan (11)
- Allocation study of marine patrol craft resources based on AHP ..... HUANG Pengfei, ZHOU Jianwen, LI Zifu (14)
- Water traffic safety risk and prevention ..... LI Guokai (17)
- Application of fuzzy variable weighting method in vessel comprehensive safety assessment ..... LIU Qiang, WANG Fengwu, YUE Xingwang (21)
- Observability analysis of rotation of strapdown inertial navigation system ... WANG Chao, ZHU Hai, GAO Dayuan, WU Zifei (23)

### Shipping Management

- Optimization of fleet deployment based on bi-objective programming and genetic algorithm ..... LI Jia, XU Qi, YIN Xiangyu, LUAN Weixin (27)
- Shipping freight index forecasting based on fuzzy neural network ..... DONG Liangcai, HUANG Youfang, HU Hao (31)
- Choice of the container line structure mode ..... CHEN Chao, SU Ya (35)
- Berth assignment optimization for container terminal based on cache ideas ..... LIU Meilian, HUANG Jian, ZHU Meihua (39)
- Port competitiveness evaluation based on factor analysis and data envelopment analysis ..... LV Liang, GAO Hong, JIA Hongyu, LIU Wei (43)
- Relationship between the development of port group and ecological environment ..... LIU Cuilian, LIU Feng (48)
- Large-scale facility location and location-routing based on geographic information systems ..... SUN Jing (51)
- Heuristic function based on the traffic confining rule and road level factors ..... SUN Yuyu, JIANG Bo, LI Chunlian, WANG Wei, DAI Yinfei, DONG Yinghong (55)
- Field mechanism of logistics operation ..... ZHAO Bing, WANG Nuo, YANG Chunxia (59)
- A system-dynamics based model for the interaction between comprehensive transportation system and district economy ..... DONG Min, GUO Zijian, TANG Guolei, ZHANG Qian (64)
- Relationship between households consumption and economic growth in China based on VAR model ..... QUE Chengyu, MA Bin (68)

### Automation

- Real-time simulation and 3D visualization of oil spill moving around the island ..... YU Feng, YIN Yong (74)
- Experimental study on predictive control of stable platform system of shipborne helicopter ..... CHEN Yuanming, YE Jiawei, ZHANG Xilong, LIANG Fulin (77)
- Nonlinear space-based regression suitable for small samples ..... YU Zhefu, LU Huibiao, JIA Chuanying (81)
- Image reconstruction algorithm for uniplanar multi-electrode technique based on BP neural networks ..... WU Yunjing, DONG Ensheng, PANG Yu, ZHAO Delin (84)
- Application of unsaturated light-induced delayed fluorescence in plant photosynthetic ability measurement ..... LI Ying, XU Wenhai (88)
- A vulnerability assessing method based on vulnerability dependence graph ..... MA Junchun, SUN Jiyin, WANG Yongjun, LI Linlin (92)
- Two kinds of fault robust fault-tolerant control ..... LI Gaoyun, CHEN Chunyan, LIU Sheng (96)

### Information Engineering

- Sea clutter prediction based on linear and non-linear models ..... SU Xiaohong, SUO Jidong, LIU Xiaoming, WANG Yingchun (100)
- A new infrared texture generation method ..... CHEN Shan, SUN Jiyin, GUO Wenpu, LI Linlin (103)
- An image denoising method based on partial differential equations ..... XU Shufang, LIU Jing, SHEN Lixin (107)

### Chemical Engineering and Environmental Science

- Design of the questionnaire for light pollution at sea based on statistical analysis software ..... ZHU Jinshan, ZHANG Wenjun, YIN Jianchuan, SUN Licheng (111)
- A model for simulating the transport and diffusion of oil and gas released in underwater spill accidents ..... LIAO Guoxiang, GAO Zhenhui, XIONG Deqi (115)
- Numerical simulation of oil spill trajectory and velocity for wrecked ship ..... XIAO Ming, LI Wei, LIN Jianguo, LIANG Xiao (121)
- Calculating method of releasing source strength of liquefied natural gas carrier above water ..... ZHUANG Xueqiang, ZHENG Chaoyu (125)
- Simulation and emergency response of submarine pipeline oil spill ..... GUAN Yongyi, LI Wei, LIN Jianguo (129)
- Hierarchical holographic modeling and risk analysis on transgenic herbicide-resistant crops ..... YANG Jun, LIU Jintao, YANG Deli (132)

### Energy and Power Engineering

- Application of endwall fences in transonic annular compressor cascade ..... YANG Ling, ZHONG Jingjun, YAN Hongming (136)
- Modeling and validation of diesel engine instantaneous crankshaft torque ..... FAN Gen, WANG Jianping, CAO Cheng, ZHOU Qingnian (141)

### Mathematics

- On the complete b-chromatic number of a graph ..... LV Chuang, WANG Kelun, LIAO Wei, XU Jing (146)